MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM 2210)

BFN2094 – CORPORATE RISK MANAGEMENT

(All sections / Groups)

7 February 2023
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of FOUR **(4)** printed pages with four **(4)** questions and financial tables only.

2. Attempt **ALL** questions.

3. Please write all your answer in the **Answer Booklet** provided.

4. Marks are shown at the end of each question.

There are FOUR (4) questions in this section. Answer ALL questions.

Question 1 (25 Marks)

(a) What are the two (2) main characteristics of pure risk as compared to other types of risk?

(4 marks)

(b) Skewness measures what characteristic of a loss distribution? Why are skewed distributions relevant to risk managers?

(4 marks)

(c) A risk management program must be implemented and periodical monitored to be effective. This step requires the preparation of a risk management policy statement. The cooperation of the departments is also necessary.

i. What benefits can the firm expect to receive from a well-prepared risk management policy statement?

(4 marks)

ii. Identify several departments within a firm that are especially important in a risk management program.

(4 marks)

(d) Based on the record for the past 5 years, Maju Bhd. has averaged 20,000 employees per year, 508 worker injuries (on the job) at an annual average cost of RM101,527. Using this data

i. Compute the probability of a worker suffering an on-the-job injury

(3 marks)

ii. Compute the average injury severity

(3 marks)

iii. Compute the expected loss per worker

(3 marks)

Continued...

Question 2 (25 Marks)

(a) Explain two (2) *advantages* of using insurance in a risk management program?

(4 marks)

(b) Explain two (2) *disadvantages* of using insurance in a risk management program.

(4 marks)

(c) Lindung Insurance is a property insurer that entered into a surplus-share reinsurance treaty with Selamat Reinsurance. Lindung has a retention limit of RM200,000 on any single building, and up to nine lines of insurance may be ceded to Selamat Reinsurance. A building valued at RM1,600,000 is insured with Lindung. Shortly, after the policy was issued, a severe fire caused an RM800,000 loss to the building.

i. How much of the loss will Lindung pay?

(4 marks)

ii. How much of the loss will Selamat Reinsurance pay?

(4 marks)

(d) SMART Company owns property valued at RM 2,000,000. They estimate that their property losses have the following distribution:

Losses (RM)	Probability
2,000,000	0.001
600,000	0.01
350,000	0.05
15,000	0.1
0	0.839

i. What is the expected value of SMART Company's losses?

(6 marks)

ii. If insurance for this loss were available for a price of RM15,000 per year, do you think that SMART Company would want to buy it? Why or why not?

(3 marks)

Continued...

Question 3 (25 Marks)

(a) Murni Sdn. Bhd. plans to enhance its workers' safety by enrolling them for training courses. The company will enjoy rebates in premium by the insurance company if the workers completed the training course (assuming that the only benefits of the training is the insurance premium rebates). The firm has a total of 200 workers and the cost of the training course for each is RM800. If all of the workers enrol in the course immediately, the company will enjoy a rebate of RM55,000 in the company's insurance premium this year and rebate of RM38,000 in each of the subsequent 3 years. The cost of capital is 8%. Should you recommend Murni Sdn Bhd to proceed with the plan? Why?

(9 marks)

(b) Juara Sdn. Bhd has a factory which manufacture industrial hand gloves. Use this data on loss control expenditures in TABLE A below to answer questions i and ii.

TABLEA

Loss Control Expenditures (RM)	Number of Worker Injuries	Average Injury Severity
0	280	6500
80000	238	6500
160000	207	6500
240000	182	6500
320000	170	6500
400000	165	6500

i. Perform a marginal cost-benefit analysis for Juara Sdn Bhd of increasing loss control expenditures from RM80,000 to RM160,000?

(13 marks)

ii. What is the economically efficient level of loss control spending?

(3 marks)

Continued...

Question 4 (25 Marks)

(a) Megah Bhd. has historically purchased separate policies for property insurance and liability insurance. Each of the policies had RM4 million retention. The company is now considering the purchase of a bundled policy which covers both property and liability exposures. The retention of the bundled policy is to be RM8 million. Sketch a graph illustrating the areas of unnecessary coverage that will exist if Megah Bhd. continues with separate policies.

(4 marks)

(b) Consider two firms: Firm X has 30,000 workers in twenty different states. Firm Y has 300 workers at a single plant. All else equal, which firm would be more likely to retain their workers compensation losses? Explain.

(5 marks)

(c) List the advantages and disadvantages of purchasing an insurance policy on aggregate property and liability losses versus purchasing a separate property insurance policy and a separate liability insurance policy.

(7 marks)

(d) Risk retention refers to the decision to accept the uncertainty associated with a particular risk exposure. The development and selection of alternative risk management methods involve a fundamental trade-off between the benefits of retention and the increased costs from greater risk. List and discuss three (3) advantages of increased risk retention.

(9 marks)

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